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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,284	11/17/2003	Hashem Akhavan-Tafti	Lumigen 4.1-88	5215
23700	7590	09/01/2005	EXAMINER	
LUMIGEN, INC. 22900 W. EIGHT MILE ROAD SOUTHFIELD, MI 48034			GROSS, CHRISTOPHER M	
			ART UNIT	PAPER NUMBER

1639

DATE MAILED: 09/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/715,284

Applicant(s)

AKHAVAN-TAFTI ET AL.

Examiner

Christopher M. Gross

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-26 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Species Election

Since the claimed inventions share a function, but do not share a common chemical core, this application contains dependent claims directed to patentably distinct species including (i) DNA binding moieties, (ii) solid supports and (iii) cleavable linkers.

Applicant is requested to elect one category for examination from each species i, and ii:

- (i) DNA binding moieties
 - A. C1-C20 alkyl, aralkyl, or aryl ternary sulfonium salt (claim 2,26).
 - B. C1-C20 alkyl, aralkyl, or aryl quaternary ammonium salt (claim 2,3).
 - C. C1-C20 alkyl, aralkyl, or aryl quaternary phosphonium salt (claim 2,4,5).
- (ii) solid supports
 - A. an insoluble synthetic polymer (claim 6).
 - B. a glass matrix (claim 7).
 - C. a silica matrix (claim 8).

Applicant is also requested to elect either chemical (iii-a) or enzymatic (iii-b) lability and furthermore elect a mechanism of release from the solid support for examination purposes:

- (iii-a) chemically cleavable linkers
 - A. the cleavable linker portion is cleaved hydrolytically (claim 11).
 - B. the cleavable linker portion is an ester or thioester group (claim 12).
 - C. the cleavable linker portion is cleaved reductively (claim 13).

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- D. the cleavable linker portion comprises a triggerable dioxetane ring (claim 14).
- E. the cleavable linker portion comprises an electron rich alkene which is cleaved by conversion to a thermally unstable dioxetane (claim 15).
- F. the cleavable linker portion comprises an acridan ketene dithioacetal which is cleaved by reaction with a peroxidase and a peroxide (claim 17).
- G. the cleavable linker portion comprises a thioester having the formula: 47 wherein Q is P or N and R is alkyl of 1-20 carbons (claim 22).
- H. the cleavable linker portion comprises a thioester having the formula: 48 (claim 23).
- I. the cleavable linker portion is an alkylene group of at least one carbon atom bonded to a trialkylphosphonium or triarylphosphonium nucleic acid binding portion and is cleavable by means of a Wittig reaction with a ketone or aldehyde (claim 24).
- J. the cleavable linker portion has the formula 49 (claim 25).

(iii-b) enzymatically cleavable linkers

- A. the cleavable linker portion comprises an ester which is cleaved by a hydrolase enzyme or an esterase enzyme (claim 18).
- B. the cleavable linker portion comprises an amide which is cleaved by a protease or peptidase enzyme (claims 19, 20).
- C. the cleavable linker portion comprises a glycoside which is cleaved by a glycosidase enzyme (claim 21).

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1, 9, 10 and 16 are generic and remain pending.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

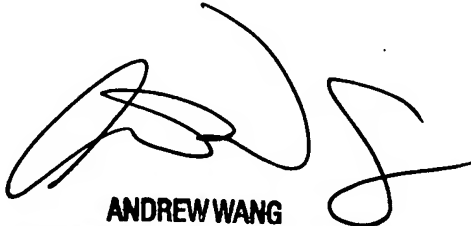
Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Gross whose telephone number is (571)272-4446. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (571)272-0811. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



ANDREW WANG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600